

Meteorological record of voluntary observers, etc.—Continued.

Stations.	Temperature.				Rainfall.	Stations.	Temperature.				Rainfall.
	Maximum.	Minimum.	Mean.				Maximum.	Minimum.	Mean.		
<i>Dakota—Continued.</i>	°	°	°	<i>Inches</i>		<i>Maryland.</i>	°	°	°	<i>Inches</i>	
Sisseton, Fort.....	89	33	62.3	1.53		Cumberland.....	88	45	70.4	3.87	
Sully, Fort.....	93	46	67.0	3.51		Fallston.....	90	50	70.4	10.75	
Totter, Fort.....	88	37	61.6	2.17		Great Falls.....	94	50	74.4	6.03	
Vermilion.....	95	39	67.1	3.87		McDonogh.....	87	45	71.1	5.05	
Webster.....	92	44	67.1	1.41		McHenry, Fort.....	91	52	72.9	7.70	
Yates, Fort.....	97	41	65.6	1.10		Woodstock.....	91	45	71.0	6.43	
<i>District of Columbia.</i>						<i>Massachusetts.</i>					
Distributing Resv'r.....	93	51	76.5	7.31		Anherst A.....	87	45	66.4	7.62	
Receiving Resv'r.....	93	55	76.2	5.86		Anherst B.....	87	34	66.0	8.31	
Rock Creek.....	97	56	78.1			Dudley.....	85	33	48.2	5.90	
<i>Florida.</i>						Fall River.....	87	46	66.2	5.17	
Archer.....	94	70	79.1	10.23		Leicester.....	86	39	66.2	7.71	
Limona.....	93	71	82.9	1.85		Mendon.....	82	51	66.2		
Manatee.....	93	77	84.4	5.27		Milton.....	85	51	65.3	5.89	
Mayport.....	93	75	81.0	7.59		New Bedford.....	80	45	67.1	4.14	
Merritts Island.....	94	73	80.6	10.28		Princeton.....	84	39	62.6	6.89	
Saint Augustine, Ft.....	93	70	79.4	8.67		Readville.....	85	43	64.6	6.28	
Tallahassee.....	92	73	81.0	9.87		Rowe.....	84	46	62.2	7.37	
<i>Georgia.</i>						Somerset.....	94	44	71.2	4.18	
Athens.....	96	58	76.5	7.05		Taunton.....	90	43	68.3	4.10	
Forayth.....	95	64	78.8	5.38		Westborough.....	90	40	68.9	7.19	
Milledgeville.....	94	66	79.8	7.70		Williamstown.....	80	34	61.5	6.62	
<i>Illinois.</i>						Worcester.....	82	45	64.5	6.35	
Anna.....	96	52	75.8	4.13		<i>Michigan.</i>					
Bunker Hill.....	96	47	72.3	3.90		Brady, Fort.....	82	42	58.8	2.24	
Collinsville.....	93	45	70.4	2.93		Buchanan.....	83	48	58.8		
Charleston.....	96	45	71.1	2.47		Harrisville.....	88	40		4.77	
Marion.....	95	51	75.2	7.50		Hudson.....	83	37	63.1	4.54	
Peoria.....	97	52	73.2	2.64		Kalamazoo.....	83	43		8.94	
Riley.....	84	45.7	64.1	6.70		Lansing.....	83	41	63.3	6.75	
Rockford.....	84	45	65.3	9.18		Manistique.....	85	37	59.9	5.32	
Sandwich.....	96	53	74.3	3.19		Mendon.....	90	44		3.06	
Swanwick.....	97	50	68.7	6.99		Northport.....	84	40		2.35	
Sycamore.....	86	47	64.4	4.90		Thornville.....	86	44	64.7	5.15	
Wilton Centre.....	95	42	66.8	7.79		Traverse City.....	87	43		6.95	
Windsor.....	94	41	72.0	11.02		<i>Minnesota.</i>					
<i>Indian Territory.</i>						Minneapolis.....	86	43	63.8	3.59	
Reno, Fort.....	99	53	77.8	2.66		Northfield.....	84	38	63.8	4.16	
<i>Indiana.</i>						Rochester.....	84	33		2.19	
Fort Wayne.....	96	50	69.0	4.77		Snelling, Fort.....	87	35	65.1	3.10	
Guilford.....	90	49	70.5	4.46		<i>Missouri.</i>					
Jeffersonville.....	95.2	52	80.0	2.03		Carthage.....	94	53	75.6	4.30	
Laconia.....	96	52	75.0	4.30		Conception.....	80	53	70.8	1.85	
Lafayette.....	94	42	68.3	4.93		Independence.....	90	52	73.8	9.36	
LaGrange.....	90	43	65.5	4.05		Pierce City.....	98	51	74.5	7.20	
Logansport.....	100	45	70.4	2.75		Springfield.....	92	53	73.0	3.73	
Mauzy.....	92	41	67.2	4.72		<i>Montana.</i>					
Spice Island.....	94	46	68.7	5.20		Assinaboine, Fort.....	95	37	66.1	0.54	
Sunman.....	94	48	73.0	7.48		Ellis, Fort.....	99	33	62.2	1.25	
Terre Haute.....	90	52		3.82		Keogh, Fort.....	93	39	67.0	0.32	
Vevay.....	96	51	74.3			Shaw, Fort.....	97	39	63.1	1.35	
<i>Iowa.</i>						<i>Nebraska.</i>					
Cedar Rapids A.....	88	41	66.2			Crete.....	91	47	69.0	2.70	
Cedar Rapids B.....	87	43	67.0	7.71		De Soto.....	92	44	68.7	4.02	
Cresco.....	82	45	63.1	4.45		Fairbury.....	77	40	85.5	1.04	
Des Moines.....	83	42	67.8	4.03		Falls City.....	94	50	71.3	1.45	
Guttenburg.....	88	44	65.3	4.76		Fremont.....	99	47	68.8	5.11	
Humboldt.....	90	42	63.5	7.10		Genoa.....	93	51	68.5	4.09	
Independence.....	81	47	65.8	7.98		Madison.....	85	50	66.1	0.25	
Indianola.....	89	49	67.5	5.40		Marquette.....	90	59		3.79	
Logan.....	93	45	70.4	7.98		Robinson, Fort.....	96	38	70.7	1.41	
Madison, Fort.....	95	49		3.50		Stockham.....	96	54	83.1	7.75	
Manchester.....	87	43	67.0	7.71		Tecumseh.....	95	52	76.2	1.93	
Maynard.....	88	40	62.1	8.54		<i>Nevada.</i>					
Monticello.....	88	41	65.8	7.39		Carson City.....	99	42	70.9	0.10	
Muscataine.....	92	45	68.8	7.09		McDermitt, Fort.....	102	46	72.9	0.16	
Oskaloosa A.....			66.9			<i>New Hampshire.</i>					
Oskaloosa B.....	94	65				Antrim.....				6.00	
Ottumwa.....	91	54	70.3	4.48		Ashland.....				6.51	
Round Grove.....	86	50		7.53		Belmont.....				5.95	
West Union.....	86	45	62.9			Bristol.....				8.55	
<i>Kansas.</i>						Lake Village.....				7.97	
Allison.....	107	48	71.5	2.05		Nashua.....				5.75	
Atchison.....	94	54	72.8	1.45		Wier's Bridge.....				7.42	
Clay Centre.....	100	66	79.2	4.05		Wolflorough.....				7.68	
Independence.....	95	55	74.8	7.46		Woodstock.....				12.92	
Leavenworth, Fort.....	97	52		5.15		<i>New Jersey.</i>					
Manhattan A.....	98	41	74.1	0.89		Beverly.....	95	50	72.2	6.83	
Manhattan B.....	98	50	73.2	1.46		Dover.....	88	40	68.0	7.00	
Maud.....	104	54	83.9			Paterson.....	97	51	71.0	6.48	
Salina.....	81	47	75.2	3.03		Phillipsburg.....	92	45	71.4	7.35	
Sterling.....	97	54	72.0	2.02		Princeton.....	90	49	71.2	5.49	
Topeka.....	99	57	74.0	4.83		Readington.....	94	52	74.7	4.60	
Wellington.....	101	49	74.4	0.61		Salem.....	94	56	75.4	10.09	
W. Leavenworth.....	97	52		5.15		Somerville.....	91	54	71.2	4.03	
Westmoreland.....	101	47	77.5	2.12		South Orange.....	88	54	66.8	7.55	
Wyandotte.....	94	53	73.2	7.86		Vineland.....	92	58	69.3	5.11	
Yates Centre.....	92	52	74.1	2.28		<i>New Mexico.</i>					
<i>Kentucky.</i>						Galinas Spring.....	95	60		2.51	
Frankfort.....	94.2	52.0	75.3	1.93		Union, Fort.....	94	44	67.4	4.70	
Richmond.....	94	48	74.8	1.80		Wingate, Fort.....	93	46	67.5	1.42	
<i>Louisiana.</i>						<i>New York.</i>					
Grand Coteau.....	97	66	82.0	7.57		Auburn.....	83	43	66	6.33	
Liberty Hill.....	94	70	85.9	2.79		Columbus, Fort.....	89	51	71.7	5.17	
Luling.....	93	61		8.39		Cooperstown.....	82	44	63.5	9.08	
Point Pleasant.....	96	68	79.5	5.36		David's Island.....	90	47	70.2	5.16	
<i>Maine.</i>						Factoryville.....	94	42	64.5	3.94	
Buckfield.....	86	45		11.10		Humphrey.....	85	47	64.3	10.11	
Cornish.....	88	45	64.4	6.08		Ithaca.....	87	40	64.6	8.14	
Gardiner.....	82	43	63.5	3.21		Le Roy.....	90	38	68.9	4.85	
Orono.....	84	44	63.3	7.36		Madison Barracks.....	85	40	63.8	2.29	
Preble, Fort.....	79	53	65.5	1.96		Menand Station.....	86	52	66.5	8.19	

Meteorological record of voluntary observers, etc.—Continued.

Stations.	Temperature.			Rainfall.	Stations.	Temperature.			Rainfall.
	Maximum.	Minimum.	Mean.			Maximum.	Minimum.	Mean.	
<i>New York—Cont'd.</i>	°	°	°	<i>Inches</i>	<i>South Carolina—C'd.</i>	°	°	°	<i>Inches</i>
Mountainville.....	96	40	67.5	7.86	Spartanburg *.....	80	42	.....	3.30
Niagara, Fort.....	86	50	65.9	3.98	Stateburg *.....	93	64	78.2	2.70
North Volney *.....	80	46	63.2	2.20	<i>Tennessee.</i>				
Palermo *.....	86	42	67.6	2.98	Ashwood *.....	98	60	79.0	3.60
Pen Yan.....	.....	.....	.....	4.27	Milan.....	93	54	70.9	0.72
Plattsburgh B'ks	83	43	64.3	2.10	<i>Texas.</i>				
Setauket.....	88	51	.....	6.43	Austin *.....	98	68	84.8	1.66
West Point.....	91	40	69.8	7.50	Brown, Fort.....	96	70	83.2	0.50
White Plains.....	84	54	69.9	8.30	Clarksville *.....	97	62	81.2	2.41
<i>North Carolina.</i>					Cleburne *.....	90	58	83.1	0.51
Flat Rock *.....	87	56	69.1	3.85	Confort.....	.....	.....	.....	2.27
Lenoir *.....	88	55	.....	3.20	Concho, Fort.....	105	62	85.5	1.35
Lincolnton *.....	84	62	76.0	3.68	Corpus Christi *.....	92	79	85.3	.....
Raleigh *.....	97	62	79.0	6.40	Corsicana.....	.....	.....	.....	0.25
Reidsville *.....	93	68	73.8	.....	Huntsville *.....	95	63	.....	1.86
Staunton *.....	92	55	78.2	2.77	New Ulm.....	86	78	83.6	0.09
Weldon *.....	98	58	77.5	1.32	<i>Utah.</i>				
<i>Ohio.</i>					Nepht *.....	96	47	65.9	2.65
Cleveland *.....	86	44	66.5	4.90	<i>Vermont.</i>				
Clyde *.....	87	48	.....	6.22	Brattleborough.....	89	37	65.9	6.34
College Hill *.....	98	54	76.3	4.10	Burlington.....	81	46	68.4	3.41
Garrettsville.....	98	53	64.3	7.44	Charlotte *.....	88	47	65.0	5.90
Hiram *.....	90	48	66.1	0.66	Dorset.....	86	33	61.8	5.66
Jacksonborough *.....	101	49	71.4	5.35	Lunenburg.....	82	30	61.4	5.77
Napoleon *.....	84	47	68.6	3.60	Newport *.....	85	42	63.3	3.91
North Lewisburg.....	94	47	74.1	7.55	Post Mills Village *.....	89	35	61.1	.....
Portsmouth.....	90	50	71.9	5.52	Stowe *.....	75	35.7	50.4	.....
Ruggles *.....	88	48	64.4	6.35	Stratford.....	86	42	63.9	7.90
Tiffin *.....	94	50	71.0	9.39	Woodstock.....	87.8	34	63.0	8.48
Wauson.....	91	40	65.8	4.36	<i>Virginia.</i>				
Westerville.....	90	45.5	65.5	5.96	Accotink *.....	95	54	76.1	3.56
Yellow Springs *.....	92	45	69.4	0.47	Bird's Nest *.....	96	59	79.9	7.05
<i>Oregon.</i>					Brulington.....	.....	.....	.....	5.14
Albany *.....	92	50	67.0	0.03	Christiansburg.....	.....	.....	.....	1.56
Bandon *.....	69	44	53.5	0.02	Dale Enterprise *.....	95	48	77.0	3.09
East Portland *.....	90	48	.....	0.00	Marion *.....	88	51	70.6	2.57
Eola *.....	90	50	66.2	0.00	Monroe, Fort.....	93	62	77.8	1.31
Klamath, Fort.....	105	62	86.5	1.35	Snowville *.....	88	40	.....	1.90
<i>Pennsylvania.</i>					Summit.....	99	46	75.0	.....
Altoona.....	93	43	71.2	5.67	Wytheville.....	7	40	70.0	3.70
Blooming Grove *.....	90	48	.....	9.20	<i>Washington Territory.</i>				
Catawissa.....	90	44	67.0	7.36	Bainbridge Island *.....	83	46	63.3	0.01
Chambersburg *.....	90	52	74.7	5.04	Kenewick.....	112	48	.....	.....
Drifton.....	90	40	65.1	7.44	Pleasant Grove *.....	96	41	.....	.....
Derry *.....	80	36	63.7	8.77	Tacoma *.....	84	52	64.5	0.00
Easton A.....	.....	.....	.....	7.76	Townsend, Fort.....	85	46	63	0.00
Easton B *.....	92	55	73.7	.....	<i>West Virginia.</i>				
Fallington.....	90	51	69.2	7.56	Helvetia *.....	92	39	67.2	3.14
Franklin *.....	84	40	60.1	6.22	Parkersburg.....	92	41	67.8	.....
Germantown *.....	89	49	.....	8.80	Wellsburg.....	.....	.....	.....	7.45
Grampian Hills *.....	90	42	66.6	8.03	<i>Wisconsin.</i>				
Mahanoy Plane *.....	89	53	70.2	9.99	Beloit.....	85	44	65.1	9.23
Quakerstown.....	88	44	67.4	8.34	Embarras *.....	82	54	64.5	5.15
South Bethlehem.....	94	46	69.2	3.64	Franklin.....	.....	.....	.....	6.06
Troy.....	94	36	64.6	3.61	Madison.....	82	46	64.2	6.41
Wellsborough *.....	90	40	65.9	1.52	Manitowoc.....	84	41	64.4	4.62
West Chester.....	89	47	66.9	.....	Neillville *.....	81	29	56.3	0.40
Wilkesbarre.....	93.4	41.1	66.8	7.92	Prairie du Chien *.....	88	51	66.4	5.82
Wysox *.....	88	48.8	68.4	5.15	Wausau.....	80	36	60.7	3.29
<i>South Carolina.</i>					<i>Wyoming.</i>				
Kirkwood *.....	86	64	75.9	2.80	Bridger, Fort.....	92	36	63.9	1.12
Pacolet *.....	85	65	70.5	2.69	Fred Steele, Fort.....	92	33	63.0	1.43

head, 1.47 inches, and Saint Vincent, 0.95 inch. The average rainfall at the nine stations was 2.93 inches. The number of days on which rain fell varied from eighteen days at Deadwood to eight days at Bismarck. The average number of days on which rain fell at the nine stations was 12.3 days.

The following meteorological summary for August, 1885, for the state of Georgia, is taken from the "Crop Report," published under the direction of Hon. J. T. Henderson, Commissioner of Agriculture for Georgia:

Districts.	Temperature.			Average precipitation.
	Highest.	Lowest.	Monthly means.	
Northern Georgia	94	58	73.1	Inches. 7.70
Middle Georgia.....	94	60	77.9	7.02
Southwest Georgia.....	96	66	80.5	6.57
East Georgia	92	62	78.4	6.70
Southeast Georgia.....	95	71	81.4	9.76
State.....	96	58	78.3	7.54

The following meteorological summary and accompanying remarks are from the August, 1885, report of the "Indiana Weather Service," under direction of Prof. H. A. Huston, of Purdue University, Lafayette:

Districts.	Temperature.			Precipitation.
	Highest.	Lowest.	Monthly mean.	
Northern counties	100.0	40	68.7	Inches. 3.32
Central counties	95.1	41	69.2	5.06
Southern counties.....	100.0	50	73.4	4.04
State.....	100.0	40	70.4	4.14

The mean temperature of the state for August, 70°.4, is 1°.1 below that for August of last year, 3°.3 below the mean of fourteen years at Indianapolis, 2°.3 below the mean of twenty-nine years at Logansport, 5°.4 below the mean of twenty-one years at Vevay, 2°.1 below the mean of four years at Blue Lick, 0°.1 below the mean of four years at Worthington, and 4° below the mean of six years at Lafayette. The mean temperatures at the stations reporting comparisons is from 1° to 4° below the normal. The highest temperature occurred on the 1st and 9th; the lowest on the 15th and 26-28th.

The mean precipitation for the state, 4.14 inches, is 2.59 above that for last year, 0.88 above the mean of fourteen years at Indianapolis, 0.82 above the mean of twenty-nine years at Logansport, 1.00 above the mean of twenty-one years at Vevay, 0.59 above the mean of four years at Blue Lick, 1.80 above the mean of four years at Worthington, and 1.57 above the mean of six years at Lafayette.

Frosts were reported from three stations on the 15th, and from one station on the 28th.

The following meteorological summary and accompanying remarks are from the August 1885, report of the "Indiana Weather Service," under direction of Prof. W. H. Ragan, of De Pauw University, Greencastle:

Districts.	August, 1885.				Summer of 1885.			
	Temperature.			Precipitation.	Temperature.			Precipitation.
	Highest.	Lowest.	Mean.		Highest.	Lowest.	Mean.	
Northern counties	100	40	67.1	3.93	102	36	69.9	10.52
Central counties	95	41	69.2	5.64	99	36	70.9	13.47
Southern counties.....	97	48	72.8	4.75	99	46	73.8	10.90
State.....	100	40	69.7	4.77	102	36	71.5	12.30

Temperature.—The temperature averaged low, being 2°.0 below the average of twenty-nine years at Logansport; 2°.8 below thirty-two years at Spiceland; 3°.9 below fifteen years at Indianapolis; 1°.2 below twenty-two years at Vevay, and for the state, the same as in 1883, and 1°.2 lower than in 1884. The highest mean was 74°.9, at Degonia Springs; lowest, 62°.3, at Monticello; highest maximum, 100°, at Logansport; lowest minimum, 40°, at Monticello; state range, 60°; average station range, 43°.5; greatest, 55°, at Logansport; least, 36°, at North Liberty. The highest occurred at most stations on the 1st, in connection with a "low" central that morning far south and a "high" far north, and on the 9th, with "low" north and "high" west, and the lowest on the 15th, "high" north; 26th, northwest; 27th, north; 28th, east. For the sum-

mer the temperature was low, being 1°.4 below normal at Logansport; 3°.3 below at Spiceland; 4°.3 below at Indianapolis; 1°.4 below at Vevay; and the state 0°.7 higher than in 1883, and 0°.7 lower than in 1884. Highest station mean, 75°.3, at Sunman and Jeffersonville; lowest, 66°.5, at Fillmore; average range, 50°.7.

Precipitation.—Unevenly distributed through the month and over the state, ranging from 32.12 on the 2d, to none on the 5th, 10th, 15th, 18th, 17th, 26th, 28th, 30th, and from 8.83 at Fillmore to 2.08 at Jeffersonville. Rain, 23 days, none, 8. Fell mostly 1st to 9th, 18th, and 21st to 25th. By sections, the greatest amount fell in the centre, and least in the north. Thunder-storms occurred on the 1st, 2d, 3d, 4th, 6th, 7th, 8th, 9th, 12th, 13th, 18th, 19th, 21st, 22d, 23d, 24th, 25th, and frost is reported 15th and 28th. The great fall of the 2d occurred while the centre of the storm of that date was crossing the north end of the state, and was heaviest some distance south of the centre.

The following is the "Iowa Weather Bulletin" for August, 1885, prepared by Dr. Gustavus Hinrichs, director of the State Weather Service:

August, 1885, was cold and fair, with excess of rainfall, westerly winds prevailing.

The mean temperature of the month was 3° below the normal. The month of August has now for three years been nearly as cold, averaging 2°.75 below normal for 1883, 1884, and 1885. It was as cold in 1875 and 1859, and nearly twice as much below normal in the years 1856, 1849, 1842, and 1841. Instead of normally having but one such cold August in five years, we have now had three consecutive cold Augusts.

The first decade was nearly normal, the second was 2° below, and the third was 7° below its normal temperature.

The rainfall has been about fifty per cent. above normal, but the number of rainy days has been normal; farm work has therefore been interfered with but little, though heavy rains have done some damage. Very heavy rains have fallen on the 1st and 2d, 8th, 18th, 23d, and 24th, of which the last two rains were the most extended.

Hail storms have occurred on the 1st, 2d, 3d, 5th, and 17th in very limited portions of the state. Lightning has killed some stock, especially near wire fences. No whirlwind has occurred in Iowa, and our summer squalls have been very few and moderate in extent and intensity.

The early morning of the 26th was coldest in Iowa, but the temperature of the air remained well up in the forties.

The summer season now closed has again been cool, being one-half of a degree below normal.

The following is an extract from the August, 1885, report of the "Minnesota Weather Service," under direction of Prof. Wm. W. Payne, Northfield:

August, this year, takes precedence over all other terminal summer months, of which there is a record at any place in the state, for a low mean temperature; and also for low maximum and minimum temperatures, as well. This deficiency was general throughout all sections, and was chiefly caused by the continuous low temperature of the last thirteen days of the month, the mean for which was 8° to 11° below the normal. The highest temperature occurred during the first half of the month, at various dates, and the warmest days were the 6th, 7th, 8th, 10th, 11th, 16th, and 17th. The highest temperatures 91°.5, at any station, was observed at Moorhead, on the 7th; the lowest maximum, 81°.3, occurred at Duluth, on the 10th. The lowest temperature reported was 27°.4, at Saint Vincent, on the 24th. From the 18th to the end of month northerly winds prevailed, the nights were cold, and frosts, more or less injurious, were general, except in the southwestern part of the state, and near Lake Superior. Late crops and tender vegetation were damaged north of the forty-sixth parallel by the heavy frosts of the 23d, 24th, and 25th. The observer at Saint Vincent, Kittson county, in the extreme northwest, under date of the 24th says: "The frost of this date did considerable damage to all the crops; it being estimated that at least one-half of the wheat crop in this section is ruined." The observer at Park Rapids, Hubbard county, under date of the 25th says: "The temperature during the night fell to 28°.3, and all tender vegetation is killed." In the southeastern part of the state frost was general on the early morning of the 26th, but not sufficiently severe as to cause serious injury. The observers at Morris, Stevens county, Bird Island, Benville county, Duluth, Saint Louis county, and La Crosse, Wisconsin, report no frost during the month.

The rainfall for August was marked by a general deficiency, except in the extreme south and southeast. There was an average of less than 2 inches for the month west of a line drawn from Aitkin, on the Northern Pacific railway, to Mankato, in Blue Earth county, and from Mankato to Sherburne, Martin county. Less than one inch fell at Mankato (.90), Bird Island (.90), and Saint Vincent (.95). The largest rainfall at any station was measured at Northfield, 4.16 inches, and Albert Lea, 4.70 inches. The heaviest rains were on the 5th, 6th, 8th, 10th, 11th, 20th, and in the west and north on the 27th, when a steady, cold rain fell, of twenty-four hours duration. Rains of over one inch in twenty-four hours occurred, as follows: Northfield, 7th, 1.11 inches, and 11th, 2.70 inches, in four hours; Dodge Centre, 8th, 1.00 inch, and 11th, 1.65 inches; Albert Lea, 8th, 1.86 inches, 11th, 1.62 inches; Red Wing, 8th, 1.12 inches.

The following is an extract from the August, 1885, report of the "Missouri Weather Service," under direction of Prof. Francis E. Nipher, Saint Louis:

The mean temperature for the month has been, approximately, 2° below the normal at the central station. The observers throughout the state generally report the mean below the normal for August. The highest temperatures were observed during the first decade of the month. The maximum was observed on the 8th. The lowest minimum was observed on the 26th, at Saint Louis.

The rainfall in some parts of the state was much above the normal and in others below. At Saint Louis the probable mean was about the normal, which is 4.05 inches.

The following are taken from the assistants' reports:

Chamois: the mean temperature has been 1°.89 below the normal for August, taken from observations for the past twelve years, with an excess of rainfall 4.01 inches above the normal, taken from observations for the past six years. We have had a fine season for crops of all kinds, corn is extra; oats, hay, and vegetables good, and a luxuriant growth of grass for grazing purposes all over the country. **Graham:** heavy losses sustained in Nodaway, Holt, and Andrew counties in crops, especially corn, and property, by the overflow of the Nodaway River on the 27th. The corn crop in this vicinity is good—fully up to an average crop, notwithstanding the loss by high water. Meteors were seen on the 2d and 7th. Grass is growing finely since the rain; wheat seedling has commenced. **Lamont:** our corn crop is about made; have had all the rain we need so far. If we have no early frost our corn crop is insured; wheat seeding is progressing, although we will sow only about 50 per cent. of what was put in last year. **Houstonia:** quite a cool August; corn prospects rather flattering; preparations for wheat above the average; apple yield medium; peach crop a failure. **Savannah:** the past month has been a very remarkably dry one. On the 1st, 22d, and 29th we had a mere sprinkle, the consequence is that water is very scarce; the ground is so dry that farmers are not plowing at all. With all the drouth we have had, our corn is very good and continues green and growing. Wheat was poor, averaging eight to ten bushels per acre; oats very good—places making eighty bushels per acre; fruit is scarce, not half a crop; potatoes good, but some rotting in the ground. We are having some grasshoppers; they are depositing eggs; there have been some flying.

Prof. B. F. Thomas, of the Ohio State University, Columbus, director of the "Ohio Meteorological Bureau," forwards the following meteorological summary in advance of the regular monthly report:

Atmospheric pressure.—Mean for the state, as determined from observations at eleven stations, 29.97 inches; station reporting highest monthly mean, New Bremen, 30.02 inches; station reporting lowest monthly mean, Oberlin, 29.89 inches; station reporting highest observed reading, Wauseon, 30.30 inches, on the 27th; station reporting lowest observed reading, McConnellsville, 29.40 inches, on the 3d; monthly range for the state, .90 inch; station reporting greatest monthly range, Wauseon, .84 inch; station reporting least monthly range, Hanging Rock, .60 inch.

Temperature.—Mean for the state, as determined from observations at twenty-three stations, 69°.1; station reporting highest monthly mean, Pomeroy, 74°.8; station reporting lowest monthly mean, Wauseon, 65°.8; station reporting highest observed reading, Pomeroy, 98°, on the 1st; station reporting lowest observed reading, Quaker City, 40°, on the 27th; monthly range for the state, 56°; station reporting greatest monthly range, Levering, 55°.5; station reporting least monthly range, Oberlin, 40°; greatest daily range, 42°, at Oberlin, on the 21st; least daily range, 5°.5, at Cleveland, on the 23d.

Relative humidity.—Mean for the state, as determined from observations at twenty-one stations, 79.4 per cent.; station reporting highest monthly mean, Youngstown, 85.4 per cent.; station reporting lowest monthly mean, Cincinnati, 71.2 per cent.

Precipitation.—Average for the state, as determined from observations at twenty-four stations, 6.26 inches; station reporting largest monthly amount, Quaker City, 9.86 inches; station reporting least monthly amount, New Bremen, 2.74 inches.

Winds.—Of twenty-four stations reporting prevailing wind-directions, six report the most frequent directions from the north; five, from northeast; one, from east; two, from southeast; two, from south; five, from southwest; one, from west; and two, from northwest.

The "Daily Telegraph" of September 3, 1885, published at Saint Johns, New Brunswick, contained the meteorological summary for August, 1885, given below. It was furnished that paper by Mr. Gilbert Murdock, and was compiled from observations made at the city observatory:

Atmospheric pressure.—(Barometer one hundred and forty feet above mean sea-level, corrected to 32° Fahr.) Highest, 30.083, on the 9th; lowest, 29.460, on the 14th; monthly range, 0.623; mean daily range, 0.142; mean daily range for August, 1884, 0.113; mean daily range for August for twenty-five years, 0.127; mean of readings at 8 a. m., 29.802; at 2 p. m., 29.781; 10 p. m., 29.778; mean of tri-daily readings, 27.787; mean of tri-daily readings for August, 1884, 29.877; mean of tri-daily readings for August for twenty-five years, 29.908. (The monthly mean pressure for August, 1884, and the normal for the period of twenty-five years are, apparently, reduced to sea-level.—C. S. O.)

Temperature.—Highest, 75°.0, 2d; lowest, 46°.0, 28th; monthly range, 29°.0; greatest daily range, 20°.0; least daily range, 2°.0; mean daily range, 11°.7; mean daily range for August, 1884, 10°.6; mean daily range for August for a period of twenty-five years, 11°.6; mean temperature of the warmest day, 65°.7, 5th; mean temperature of the coldest day, 53°.3, 28th; mean temperature for the month at 6 a. m., 55°.9; at 2 p. m., 64°.9, and at 10 p. m., 58°.3; mean of tri-daily readings, 59°.7; mean of tri-daily readings for August, 1884, 59.5; mean of tri-daily readings for August for a period of twenty-five years, 59.6; highest August temperature recorded since 1860 is 84°, in 1875, and the lowest, 44°, in 1862 and 1882, or an extreme range in twenty-five years, of 40°; the highest monthly mean of the tri-daily readings is 61°.83, in 1877, and the lowest, 57°.71, in 1862, making a difference of 4°.12 in the extreme means for the same month during the period of twenty-five years.

Aqueous vapor.—Highest, 0.706, on the 5th; lowest, 0.270, on the 28th; average (8 a. m., 2 and 10 p. m.), 0.460; average for August, 1884, 0.477; average for August for twenty-five years, 0.446.

Relative humidity.—Highest, 100.0 per cent., on numerous dates; lowest, 52.0 per cent., on the 16th; monthly mean (8 a. m., 2 and 10 p. m.), 86.2 per cent.; monthly mean for August, 1884, 89.7 per cent.; monthly mean for August for twenty-five years, 86.8 per cent.

Precipitation.—Rain fell between 6 a. m. and 6 p. m. on six days; rain fell between 6 p. m. and 6 a. m. on nine nights; total fall by day, 0.660; total fall by night, 1.660; total for month (in seventy and one-fourth hours), 2.320; total for August, 1884, 6.445; average August rainfall for twenty-five years, 3.686; the wettest August on record since 1860 was 1864, with a rainfall of 7.235, and the driest was 1883, with a total rainfall of 0.830.

The following is an extract from the Tennessee "State Board of Health Bulletin" for August, 1885, prepared under the direction of J. D. Plunkett, M. D., president, State Board of Health, and furnished in advance of the regular report:

State summary.

Mean temperature, 75°.80; highest temperature, 102°, on the 9th, at Sailors Rest; lowest temperature, 50°, on the 15th, at Sailors Rest, and on the 27th, at Hohenwald; range of temperature, 52°; mean monthly range of temperature, 36°.14; greatest monthly range of temperature, 52°, at Sailors Rest; least monthly range of temperature, 24°, at Greenville; mean daily range of temperature, 16°.5; greatest daily range of temperature, 39°, on the 17th, at Sailors Rest; least daily range of temperature, 2°, on the 18th, at Manchester, and on the 28th, at Careyville; mean maximum temperature, 94°.53; mean minimum temperature, 58°.40.

Mean depth of rainfall, 2.30 inches; mean daily rainfall, .074 inch; greatest rainfall, 6.21 inches, at Careyville; least rainfall, 0.03 inch, at McKenzie; greatest local daily rainfall, 2.80 inches, on the 12th, at Ashwood; days of greatest rainfall, 2d, 10th, 13th; day of greatest rainfall, 2d.

Average number of days on which rain fell, 6.7; average number of clear days, 11; average number of fair days, 13; average number of cloudy days, 7; rainless day, 29th; days of highest temperature, 9th, 10th; days of lowest temperature, 15th, 27th.

Prevailing wind, southwest.

The meteorological features for August, 1885, were the small amount of precipitation and the high temperature during the first half of the month.

There was the usual amount of electric disturbance, but no very severe storms were reported, except the small cyclone in the vicinity of Milan, which, happily, was not attended with any loss of life.

The mean temperature for the month was 75°.80, 2°.20 above the mean for the corresponding month last year, and 3°.80 above that for August, 1883.

The mean of the maximum temperature was 94°.53, 0°.71 above that for August, 1884, and the mean minimum temperature was 58°.40, 1°.40 above that for last August. The highest temperature of the first half of the month was a continuation, with scarcely a cessation or interruption, of the hot wave of the last decade of July, and for the intensity and duration was almost without a parallel.

The average precipitation for the month was 2.30 inches less than the month previous, and only .22 inch more than for last August, which was below the normal. The distribution was very unequal, by far the larger portion being in the eastern division, 3.91 inches, while the middle and western divisions received only 1.88 and 1.12 inches, respectively. The rains of the 2d, 10th, 13th, and 25th were general, but heaviest in the eastern and middle divisions. Those of the 1st and 2d were the only ones of any note in the western division. From the 13th to the close of the month the rainfall was very light throughout the state, with, perhaps, two or three local exceptions in the eastern division, much of it being inappreciable. At Grief, on the 25th, a fall of 1.31 inches was reported, and was the greatest local daily fall after the above date. The days of the greatest rainfall were the 2d, 10th, 13th, the greatest of these being the 2d, on which day an average of a little more than half an inch of rain fell throughout the state. The greatest rainfall during the month was 6.21 inches, at Careyville, in the eastern division, and the greatest local daily rainfall was at Ashwood, in the middle division, on the 12th, when 2.80 inches of rain fell in the space of two hours and a half.

It is a little singular that with so little rain, the reports show only one rainless day during the month, the 29th. The average number of days on which rain fell, was 6.7, almost the same as last August, which was 6.1 days.

